

PATENT ABSTRACTS OF JAPAN

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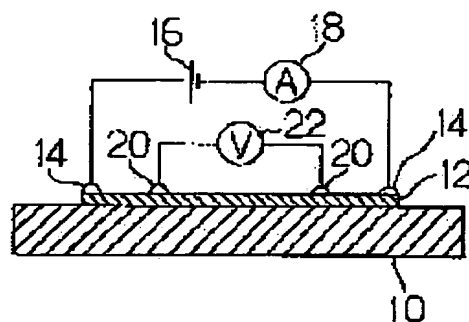
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(54) OXYGEN SENSOR

(57)Abstract:

PURPOSE: To obtain an oxygen sensor which excels in anti-temperature characteristic and responsiveness with a simple structure by forming an oxygen concentration detecting section from a compound in which a specified perovskite type oxide is doped with alkaline earth metal.

CONSTITUTION: An oxygen concentration detecting section (thin film) is formed on a substrate 10 by a laser abrasion method or the like. The detecting section 12 is formed from a compound in which a perovskite type oxide of an ABO₃ type comprising ittrium or lanthanoid at an A site and chromium or manganese at a B site is doped with alkali earth metal. To measure electric conductivity of the thin film 12 by a DC 4 terminal method, an ammeter 18 is connected in series to a power source 16 through a terminal 14. A voltmeter 22 is connected through a terminal 20. As the electric conductivity of the thin film 12 varies with the concentration of oxygen in the atmosphere, the electric conductivity of the thin film 12 is measured in various atmospheres with the concentration of oxygen known is measured beforehand. This clarifies a corresponding relationship between the concentration of oxygen and the electric conductivity.



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